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CONTINUOUS BASELINE STUDY

Project 1108-13

Summary Report

to

FOURDRINIER KRAFT BOARD INSTITUTE, INC.

October 1, 1957

THE INSTITUTE OF PAPER CHEMISTRY

Appleton, Wisconsin

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This report presents a summary of the results obtained in conjunction with the Continuous Baseline Study from April 1, 1957, to September 30, 1957--a period of six months--and is supplementary to a similar report dated April 1, 1957. The duration of each reported period and number of samples processed during each are given in Table I; the number of samples processed from each participating mill during each period is shown in Table II.

Previous summary reports have presented data for 117 periods of the Continuous Baseline Study. This report summarizes the results obtained for periods 118 to 123. As indicated by the current F.K.I. test averages shown in Table III and graphically illustrated in Figure 1, it may be seen that the following trends have been evident during periods 1 to 123:

Basis Weight: The basis weight averages varied only slightly from a level of 43 lb.

Caliper: The caliper averages decreased from a high of 15.6 points during the initial period to 13.4 points during the 41st period at which time caliper had reached a plateau from which it has decreased slightly to its present level of 12.8 points.

Bursting Strength: The bursting strength averages increased substantially during the first 36 periods of the

Continuous Baseline Study (from approximately 100 to 110 p.s.i. gage) and decreased during periods 37 to 49 (to approximately 105 p.s.i. gage). With a few exceptions, bursting strength averages have maintained a level near 110 p.s.i. gage since that time.

G. E. Puncture: At the request of the Fourdrinier Kraft Board Institute, the G. E. puncture test was discontinued at the conclusion of the 99th period. G. E. puncture averages declined from 40 units at the inception of the study to 33 units during the 72nd to 78th periods. After that, G. E. puncture averages maintained a level near 35 units until the test was discontinued.

Elmendorf Tear: Elmendorf tear averages were high for approximately the first thirty periods of the Continuous Baseline Study. However, since then there has been a gradual decline. Machine direction tear averages have declined from a high of 403 g./sheet for the 10th period to the current level near 340 g./sheet. Cross-machine direction tear averages have decreased similarly from a high of 426 g./sheet for the 10th period to the current level near 375 g./sheet.

The observations noted above pertained to the 123 periods that the Continuous Baseline Study has been in progress. This summary report, as mentioned previously, is concerned with reviewing the results not only for the entire 123 periods, but also for the most recent six-month period as reported in progress reports 118 through 123. Therefore, with the overall trends still in mind, it may be of interest to summarize briefly the trends for the current periods. Reference should be made to Table IV and Figure 2 where the current F.K.I. averages are shown in tabular and graphical form, respectively. From these data it may be seen that

- (1) Basis weight has remained constant at a level near 43.0 lb.
- (2) Caliper has also maintained a constant average near 12.7 points.
- (3) Bursting strength has maintained a high level near 112 p.s.i. g.
- (4) Machine and cross-machine direction Elmendorf tear averages have remained relatively unchanged near 335 and 370 g./sheet, respectively.

The test results obtained for individual mills during periods 118 through 123 are summarized in Table V. Given in Table V are the table numbers and figure numbers (and their pertinent page numbers) in which are shown the results for individual mills. Thus it may be noted in Table V, for example, that the results for Mill A are presented in Table VI and Figure 3, that the results for Mill B are presented in Table VII and Figure 4, and so on. In addition to this information, summarized succinctly for each mill in Table V,

are the trends associated with each test. For example, the trends for Mill A during periods 118 to 123 were the following:

1. Basis weight variable from 42.1 to 43.0 lb.
2. Caliper constant near 13.6 pt.
3. Bursting strength variable from 109 to 117 p.s.i. gage.
4. Machine direction tear constant near 340 g./sheet.
5. Cross-machine direction tear constant near 365 g./sheet.

The trends for every other mill are summarized in this same way in Table V, making it easy to compare trends for the various mills.

TABLE I

DURATION OF REPORTED PERIODS

AND

NUMBER OF 42-LB. KRAFT LINERBOARD SAMPLES PER PERIOD

Period	Duration	Number of Samples
118	April 1 through April 30, 1957	91
119	May 1 through May 31, 1957	100
120	June 1 through June 30, 1957	92
121	July 1 through July 31, 1957	70
122	August 1 through August 31, 1957	98
123	September 1 through September 30, 1957	86

TABLE II

TABULATION BY PERIODS OF THE NUMBER OF SAMPLES OF 42-LB.

KRAFT LINERBOARD SUBMITTED BY EACH MILL

Mills	Periods					
	118	119	120	121	122	123
A	3	10	5	4	10	5
B	4	7	2	5	4	7
C	0	2	1	1	0	0
D	5	2	5	4	1	4
E	10	6	10	6	8	8
F	4	8	4	4	6	4
G	8	4	8	3	0	2
H	8	10	5	8	8	7
I	3	7	5	3	8	3
J	8	7	4	9	11	10
K	0	0	0	0	0	0
L	6	4	4	1	8	4
M	6	8	4	2	4	4
N	4	8	12	6	8	6
O	6	5	6	0	3	8
P	9	9	9	9	9	9
Q	3	1	3	2	3	2
S	4	2	5	3	7	3
Total	91	100	92	70	98	86

TABLE III

TABULATION OF CURRENT F.K.I. AVERAGES BY PERIODS

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	G. E. Puncture, units	Elmendorf Tear, g./sheet	
					In	Across
1	42.9	15.6	103	40	389	422
2	42.6	15.3	102	39	373	408
3	43.1	15.4	105	39	395	423
4	43.4	15.2	107	39	381	412
5	43.2	15.4	104	39	378	419
6	43.1	15.2	101	39	377	416
7	43.4	15.4	99	39	384	411
8	42.9	14.9	102	39	383	409
9	43.2	15.0	101	40	387	416
10	43.4	15.0	101	37	403	426
11	43.2	14.7	104	38	400	423
12	43.0	14.6	103	37	394	423
13	42.9	14.5	102	38	379	416
14	43.0	14.5	102	37	379	411
15	43.0	14.5	105	34	372	409
16	43.3	14.8	104	34	370	400
17	43.1	14.9	105	36	372	408
18	43.5	14.8	104	36	374	411
19	43.3	14.6	105	38	364	401
20	43.2	14.2	106	37	372	406
21	43.4	14.1	109	37	376	415
22	43.0	14.1	113	37	381	414
23	43.3	14.1	110	37	377	410
24	43.5	14.1	110	36	379	405
25	43.5	14.4	109	35	382	414
26	43.4	14.2	110	36	374	404
27	43.4	14.0	112	37	385	425
28	43.4	14.1	111	37	388	417
29	42.9	14.0	109	36	379	415
30	43.1	13.7	108	36	383	425
31	43.0	13.6	106	36	384	418
32	42.6	13.6	106	36	390	418
33	43.6	13.7	110	36	376	413
34	43.5	13.5	110	36	379	410
35	43.3	13.4	109	36	374	414
36	43.2	13.4	110	36	372	411
37	43.3	13.7	107	35	379	412
38	43.0	13.7	106	35	372	411
39	42.9	13.6	105	35	369	402
40	42.9	13.8	104	36	379	412

TABLE III--Continued

TABULATION OF CURRENT F.K.I. AVERAGES BY PERIODS

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	G. E. Puncture, units	Elmendorf Tear, g./sheet	
					In	Across
41	42.9	13.4	102	34	371	403
42	42.9	13.3	102	35	374	408
43	42.6	13.4	102	36	373	401
44	42.5	13.4	104	35	357	390
45	42.7	13.3	105	35	362	395
46	42.4	13.2	105	35	359	393
47	42.6	13.4	104	35	365	399
48	42.6	13.3	103	36	367	397
49	42.8	13.3	104	35	362	397
50	42.9	13.2	108	35	362	389
51	42.8	13.3	106	35	363	393
52	42.9	13.2	106	36	367	395
53	42.9	13.2	109	34	357	391
54	43.2	13.4	106	36	362	398
55	42.9	13.4	106	35	365	398
56	43.0	13.4	108	36	358	394
57	43.1	13.3	107	35	359	388
58	42.7	13.3	108	35	348	382
59	42.9	13.4	109	35	354	390
60	43.1	13.3	107	34	360	388
61	43.3	13.4	108	35	363	400
62	43.2	13.3	109	34	364	390
63	43.1	13.5	107	34	356	390
64	42.9	13.5	107	34	353	391
65	42.9	13.4	108	35	364	400
66	43.0	13.2	108	34	360	394
67	43.0	13.1	108	34	353	390
68	42.9	13.3	109	34	350	388
69	43.0	13.2	110	35	363	397
70	43.0	13.4	108	34	358	390
71	43.2	13.4	110	35	364	399
72	43.0	13.1	108	33	351	387
73	42.9	12.9	111	33	349	385
74	43.1	13.0	110	33	347	382
75	42.7	12.8	112	33	341	374
76	43.0	13.2	107	33	342	375
77	42.9	13.0	109	33	347	380
78	43.4	13.1	109	33	353	387
79	43.0	13.0	108	34	351	384
80	43.1	13.0	108	35	348	384

TABLE III--Continued

TABULATION OF CURRENT F.K.I. AVERAGES BY PERIODS

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	G. E. Puncture, units	Elmendorf Tear, g./sheet In Across
81	42.9	13.0	110	34	356 389
82	43.0	12.9	109	34	354 383
83	43.0	13.1	111	34	351 381
84	42.7	12.9	111	33	344 377
85	43.1	12.9	114	34	352 383
86	42.9	12.8	112	34	351 378
87	42.9	12.8	112	34	347 379
88	43.1	13.0	111	35	355 382
89	43.0	13.1	109	36	361 389
90	43.4	13.0	110	37	355 384
91	42.9	12.9	111	36	355 384
92	43.2	13.0	110	35	347 377
93	43.3	13.0	112	37	358 387
94	43.0	12.8	111	36	360 387
95	42.9	12.7	110	36	362 387
96	42.8	12.6	108	35	351 383
97	43.0	12.7	109	35	358 388
98	42.8	12.7	111	35	353 385
99	42.7	12.6	109	35	352 381
100	43.0	12.7	108		352 382
101	43.0	12.7	108		352 383
102	43.0	12.6	109		345 379
103	43.0	12.8	109		342 379
104	42.8	12.8	109		345 382
105	42.8	12.8	110		347 379
106	43.0	12.7	109		343 375
107	42.9	12.6	109		341 374
108	43.0	12.7	107		343 375
109	42.9	12.7	107		342 375
110	43.0	12.7	109		340 372
111	43.2	12.7	108		333 368
112	43.1	12.7	107		335 368
113	43.1	12.7	109		334 370
114	43.1	12.7	109		337 372
115	43.1	12.7	111		342 372
116	43.1	12.8	109		339 373
117	43.1	12.7	111		339 376
118	43.0	12.7	110		337 373
119	43.0	12.7	112		336 379
120	43.1	12.7	113		331 370
121	42.8	12.5	112		330 370
122	42.7	12.8	111		330 366
123	43.2	12.8	111		335 372

TABLE IV
TABULATION OF CURRENT F.K.I. AVERAGES FOR PERIODS
118 THROUGH 123

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	43.0	12.7	110	337	373
119	43.0	12.7	112	336	379
120	43.1	12.7	113	331	370
121	42.8	12.5	112	330	370
122	42.7	12.8	111	330	366
123	43.2	12.8	111	335	372

TABLE V
LOCATION OF DATA AND SUMMARY OF TRENDS FOR INDIVIDUAL MILLS

	Mills									
	A.	B	C	D	E	F	G	H	I	J
Data given in Table No.	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV
on Page No.	13	13	14	14	15	15	16	16	17	17
Graphical Presentation										
in Figure No.	3	4	5	6	7	8	9	10	11	12
on Page No.	26	27	28	29	30	31	32	33	34	35
Trends for Periods 118 to 123:										
Basis Weight:	Variable from 42.1 to 43.0 lb.	Variable from 42.4 to 44.2 lb.	Variable from 42.0 to 43.1 lb.	Variable from 42.4 to 43.3 lb.	Variable from 41.8 to 43.0 lb.	Variable from 42.3 to 43.6 lb.	Constant near 42.0 lb.	Variable from 43.1 to 43.9 lb.	Variable from 42.2 to 43.7 lb.	Constant near 43.7 lb.
Caliper:	Constant near 13.6 pt.	Constant near 12.8 pt.	Variable from 11.0 to 11.8 pt.	Slight upward trend	Slight downward trend	Constant near 13.2 pt.	Variable from 10.9 to 12.2 pt.	Constant near 12.5 pt.	Constant near 12.6 pt.	Constant near 12.7 pt.
Bursting Strength:	Variable from 109 to 117 p.s.i. g.	Upward trend from 106 to 115 p.s.i. g.	Variable from 112 to 119 p.s.i. g.	Variable from 110 to 118 p.s.i. g.	Variable from 109 to 116 p.s.i. g.	Constant near 112 p.s.i. g.	Constant near 110 p.s.i. g.	Variable from 109 to 119 p.s.i. g.	Slight downward trend	Variable from 114 to 125 p.s.i. g.
Tear, in:	Constant near 340 g./sheet	Constant near 300 g./sheet	Constant near 340 g./sheet	Variable from 305 to 342 g./sheet	Constant near 315 g./sheet	Variable from 356 to 376 g./sheet	Variable from 324 to 351 g./sheet	Constant near 310 g./sheet	Variable from 314 downward trend	Slight downward trend
Tear, across:	Constant near 365 g./sheet	Constant near 350 g./sheet	Variable from 367 to 389 g./sheet	Variable from 347 to 376 g./sheet	Variable from 359 to 384 g./sheet	Constant near 380 g./sheet	Variable from 371 to 394 g./sheet	Constant near 365 g./sheet	Constant near 375 g./sheet	Downward trend

TABLE V--Continued
LOCATION OF DATA AND SUMMARY OF TRENDS FOR INDIVIDUAL MILLS

	K	L	M	N	O	P	Q	S	R ^A
Data given in Table No.	XVI	XVII	XVIII	XIX	XX	XXI	XXII	XXIII	XXIV
on Page No.	18	18	19	19	20	20	21	21	22
Graphical Presentation									
in Figure No.	Note B	13	14	15	16	17	18	19	Note B
On Page No.		36	37	38	39	40	41	42	
Trends for Periods 118 to 123:									
Basis Weight:	Variable from 41.8 to 44.1 lb.	Variable from 41.6 to 43.6 lb.	Variable from 42.4 to 43.1 lb.	Variable from 43.5 to 44.2 lb.	Constant near 42.6 lb.	Variable from 42.6 to 44.2 lb.	Constant near 42.7 lb.		
Caliper:	Variable from 12.1 to 13.2 pt.	Variable from 11.8 to 12.5 pt.	Variable from 13.1 to 14.0 pt.	Constant near 12.1 pt.	Constant near 13.0 pt.	Variable from 12.4 to 13.0 pt.	Constant near 13.0 pt.		
Bursting Strength:	Constant near 108 p.s.i. g.	Constant near 108 p.s.i. g.	Constant near 117 p.s.i. g.	Constant near 115 p.s.i. g.	Constant near 109 p.s.i. g.	Variable from 100 to 108 p.s.i. g.	Variable from 110 to 116 p.s.i. g.		
Tear, in:	Upward trend from 330 to 362 g./sheet	Downward trend from 369 to 316 g./sheet	Constant near 300 g./sheet	Constant near 365 g./sheet	Variable from 342 to 363 g./sheet	Constant near 365 g./sheet	Variable from 299 to 335 g./sheet		
Tear, across:	Upward trend from 367 to 404 g./sheet	Downward trend	Constant near 370 g./sheet	Constant near 400 g./sheet	Constant near 380 g./sheet	Constant near 370 g./sheet	Variable from 351 to 379 g./sheet		

Note A: This code letter is used to identify drum linerboard samples submitted for evaluation by one of the participants.
Note B: No samples were submitted for evaluation during all (or most) of the periods covered by this report.

TABLE VI

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL A

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	43.0	13.6	111	336	361
119	42.4	13.3	115	342	372
120	42.1	13.8	117	330	362
121	42.4	13.4	110	344	368
122	42.2	13.6	109	342	362
123	42.6	13.6	110	345	367

TABLE VII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL B

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	42.4	13.1	106	304	348
119	44.2	12.7	111	306	352
120	44.1	12.7	112	290	337
121	44.0	12.5	111	288	349
122	44.0	13.0	113	298	351
123	44.1	12.9	115	303	353

TABLE VIII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL C

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118		No samples submitted.			
119	42.0	11.0	113	335	384
120	43.1	11.8	119	346	389
121	42.4	11.2	112	332	367
122		No samples submitted.			
123		No samples submitted.			

TABLE IX

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL D

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	42.4	13.2	113	315	361
119	43.2	13.3	112	323	376
120	42.4	13.1	114	328	355
121	43.3	13.3	118	342	372
122	42.8	13.7	110	305	347
123	43.3	13.5	111	326	358

TABLE X

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL E

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	43.0	12.5	109	320	366
119	42.8	12.5	114	318	384
120	43.0	12.4	113	306	361
121	41.8	12.1	116	308	361
122	42.2	12.2	114	309	359
123	42.8	12.2	114	318	363

TABLE XI

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL F

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	42.4	13.0	112	364	384
119	42.9	13.4	112	366	384
120	42.5	13.0	111	356	380
121	43.6	13.0	111	363	372
122	42.3	13.2	112	364	372
123	43.2	13.3	111	376	381

TABLE XII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL G

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	41.9	12.1	108	351	387
119	42.2	12.0	109	347	394
120	42.0	12.2	112	344	388
121	41.5	10.9	111	324	371
122		No samples submitted.			
123	41.7	12.2	110	348	393

TABLE XIII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL H

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	43.9	12.7	109	317	363
119	43.1	12.7	114	317	372
120	43.5	12.3	119	297	358
121	43.3	12.4	114	302	360
122	43.1	12.6	113	311	370
123	43.7	12.3	115	306	359

TABLE XIV

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL I

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	43.2	12.5	117	328	384
119	42.9	12.7	115	316	376
120	42.9	12.6	112	314	383
121	42.2	12.3	109	320	367
122	42.8	12.6	109	331	376
123	43.7	12.9	109	324	376

TABLE XV

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL J

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	44.0	12.5	116	357	395
119	43.7	12.9	117	352	396
120	43.7	12.8	125	351	385
121	43.8	12.6	117	352	382
122	43.5	12.5	114	340	379
123	43.7	12.5	117	348	377

TABLE XVI

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL K

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118		No samples submitted.			
119		No samples submitted.			
120		No samples submitted.			
121		No samples submitted.			
122		No samples submitted.			
123		No samples submitted.			

TABLE XVII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL L

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	42.5	12.3	107	330	367
119	43.4	13.0	109	339	388
120	42.8	12.3	109	350	380
121	41.8	12.1	110	346	404
122	42.6	13.2	108	356	381
123	44.1	13.1	111	362	401

TABLE XVIII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL M

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	42.8	12.2	109	369	360
119	43.1	12.5	108	351	361
120	42.7	12.1	109	329	346
121	43.6	12.3	109	327	346
122	41.6	11.8	106	322	327
123	42.5	12.0	108	316	337

TABLE XIX

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL N

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	43.0	13.2	114	304	372
119	42.6	13.4	117	305	371
120	43.1	13.4	116	299	369
121	42.4	14.0	113	305	371
122	42.5	13.1	119	301	372
123	42.6	13.4	115	290	364

TABLE XX

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL O

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	43.7	12.2	111	376	405
119	43.4	12.0	116	368	413
120	43.6	12.1	116	361	399
121	No samples submitted.				
122	43.1	12.0	114	366	385
123	43.4	12.0	114	358	402

TABLE XXI

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL P

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	44.1	12.9	111	352	380
119	44.2	13.0	108	363	381
120	44.1	12.8	108	346	379
121	43.1	12.6	110	355	376
122	42.9	12.4	110	342	379
123	44.1	12.7	108	348	378

TABLE XXII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL Q

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	42.9	12.9	101	365	378
119	42.8	13.0	108	359	376
120	44.2	13.3	101	374	364
121	42.6	12.9	104	359	372
122	42.8	13.0	100	357	375
123	43.1	12.8	102	363	372

TABLE XXIII

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL S

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	42.6	12.4	113	299	351
119	42.4	12.5	114	310	359
120	42.7	12.6	112	308	364
121	42.9	12.7	112	313	378
122	42.7	12.7	116	300	354
123	43.1	12.9	110	335	376

TABLE XXIV

TABULATION OF CURRENT AVERAGES BY PERIODS FOR MILL R
Drum Linerboard

Period	Basis Weight, lb.	Caliper, points	Bursting Strength, p.s.i. g.	Elmendorf Tear, g./sheet	
				In	Across
118	47.5	13.7	98	361	389
119		No samples submitted.			
120		No samples submitted.			
121		No samples submitted.			
122		No samples submitted.			
123		No samples submitted.			

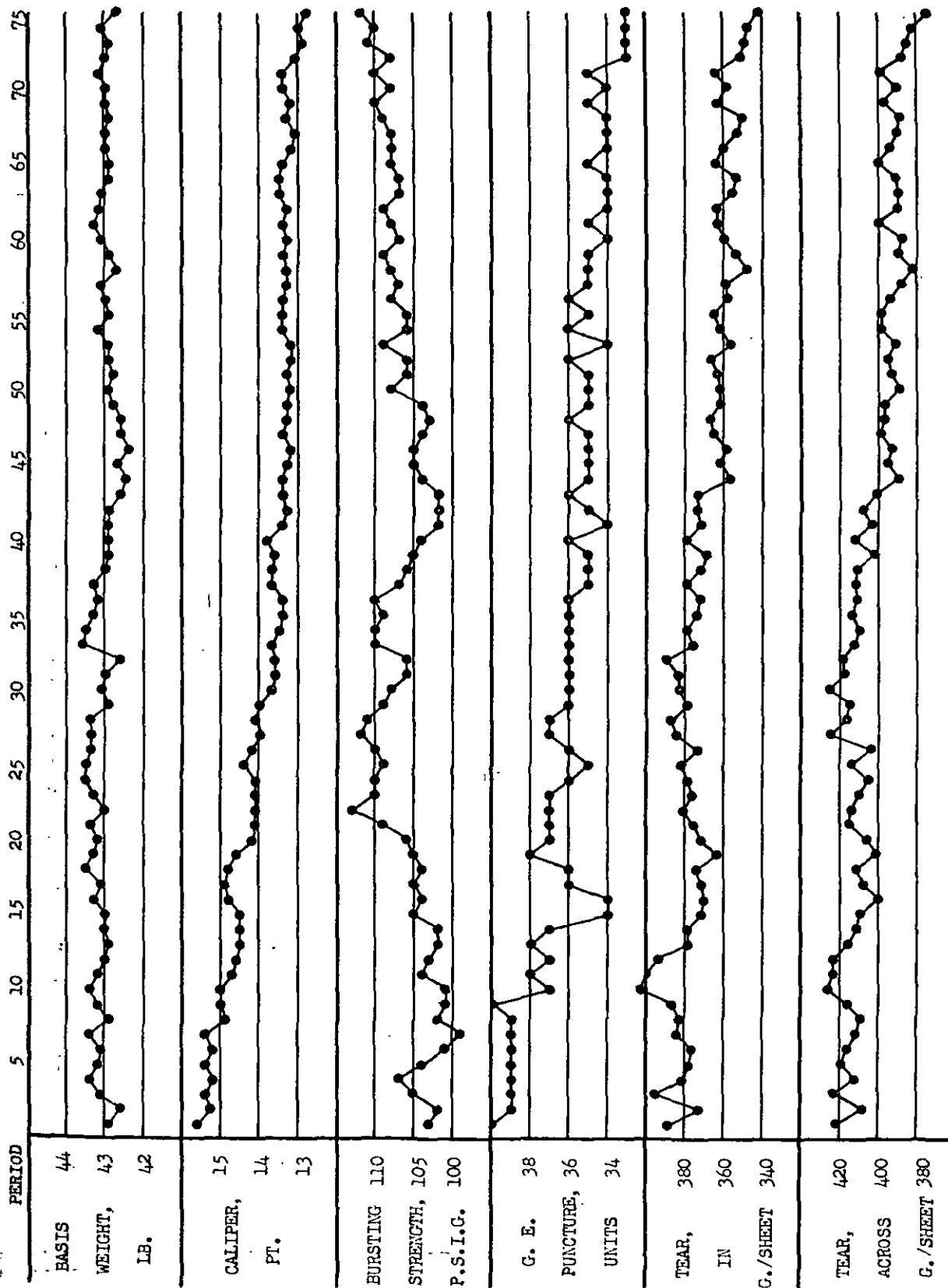


Figure 1
Comparison of Current F.K.I. Averages for Periods 1 Through 123

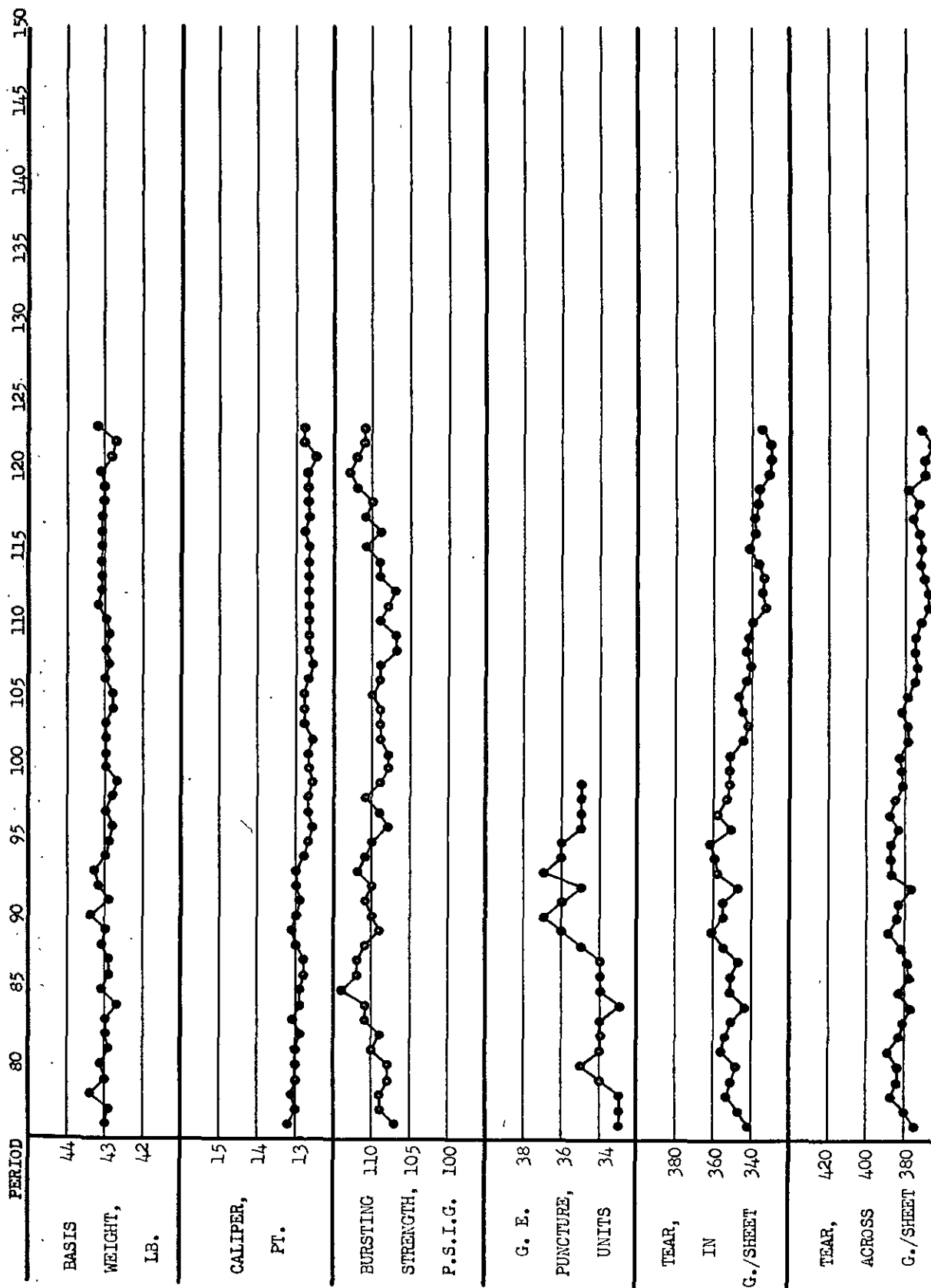


Figure 1—Continued
Comparison of Current F.K.I. Averages for Periods 1 Through 123

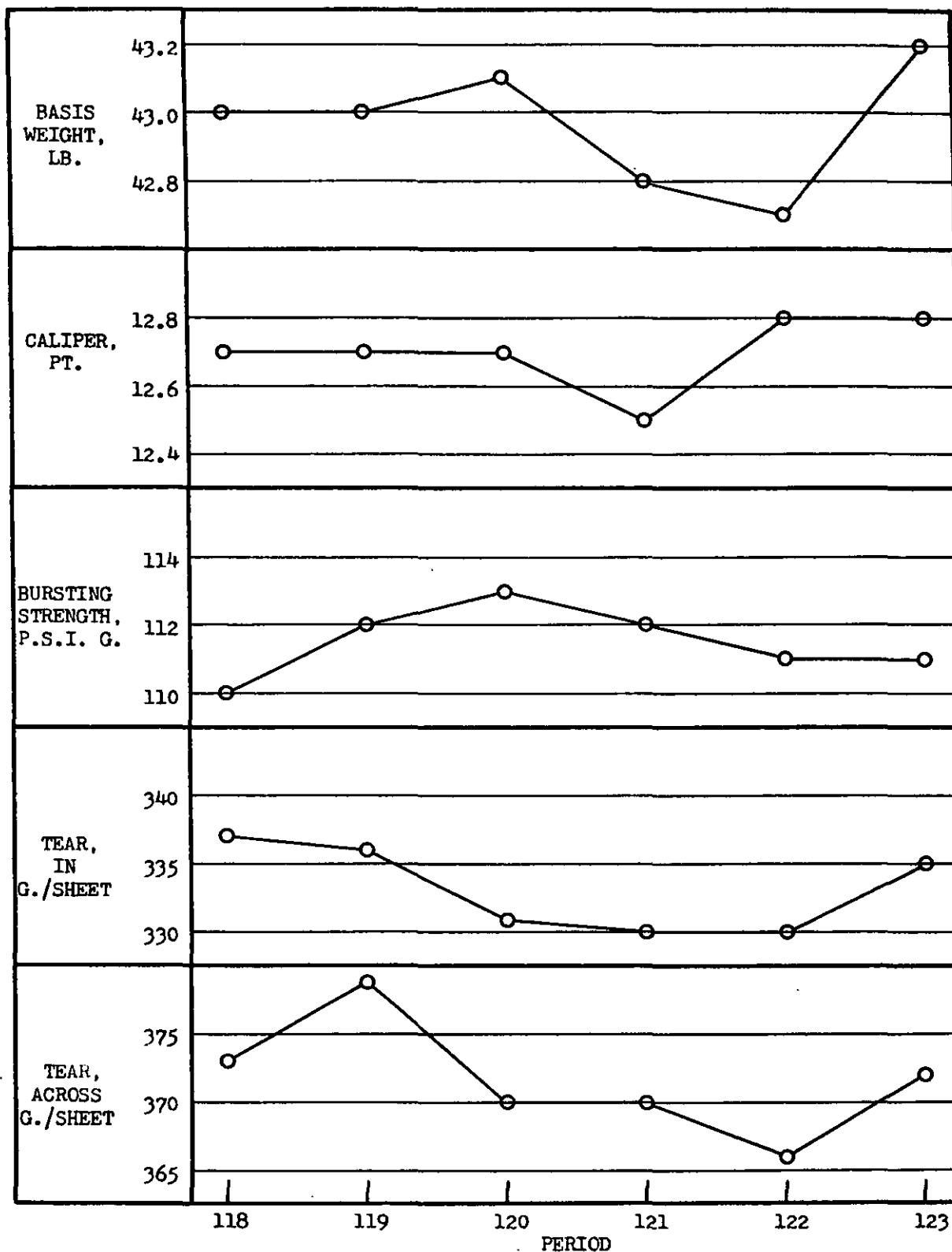


Figure 2

Comparison of Current F.K.I. Averages for Periods 118 Through 123

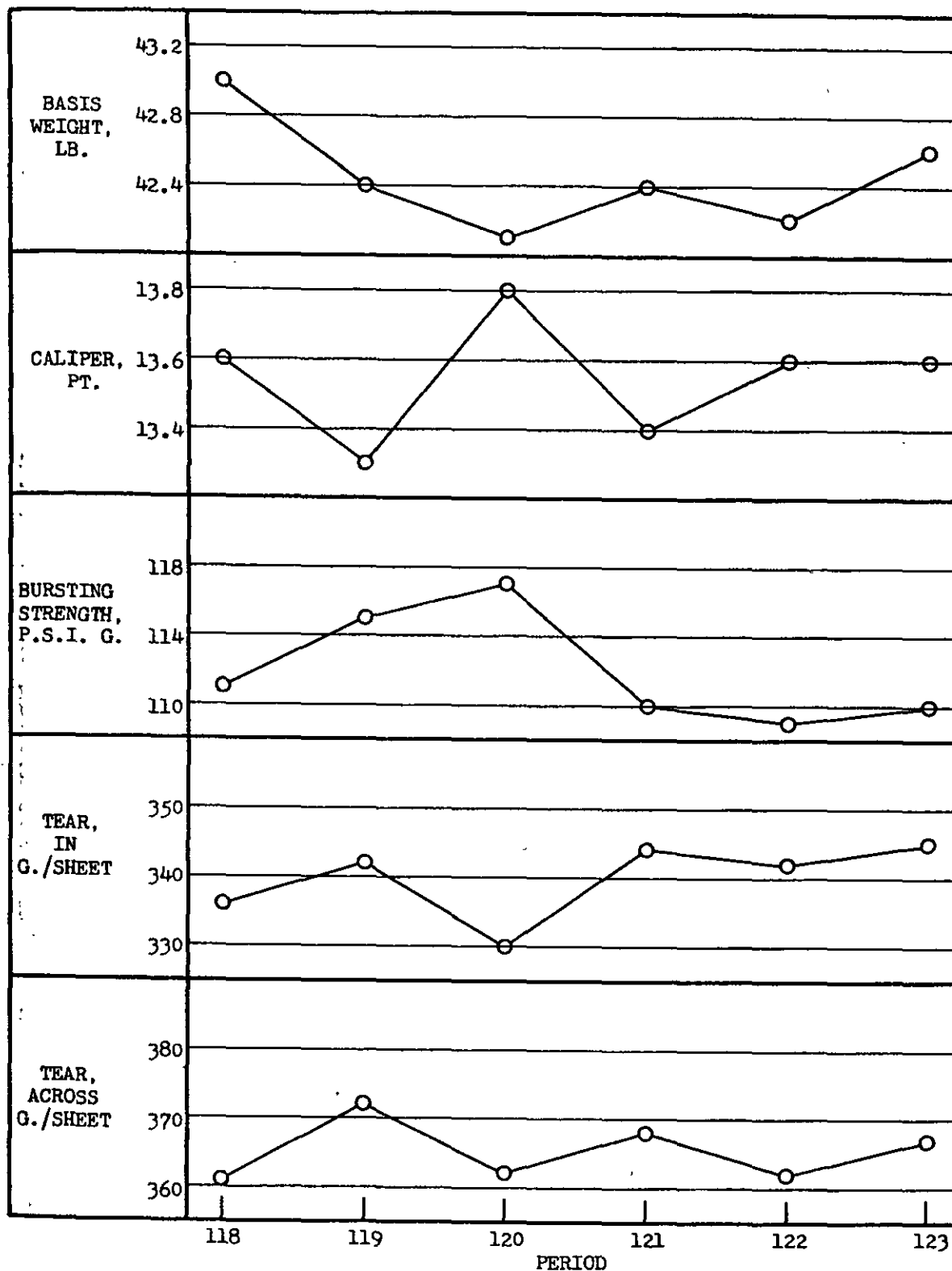


Figure 3

Comparison of Current Mill Averages by Periods for Mill A

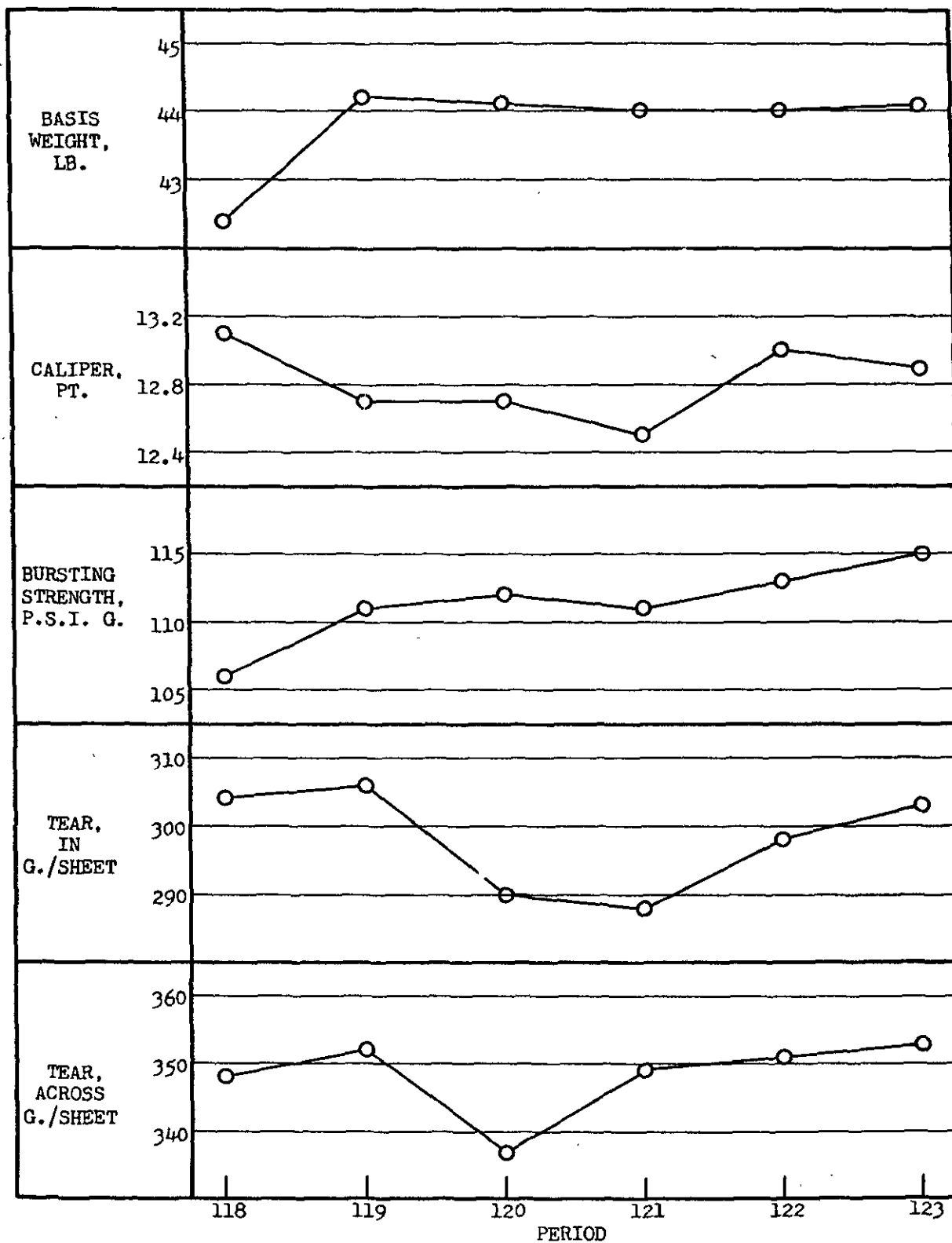


Figure 4

Comparison of Current Mill Averages by Periods for Mill B

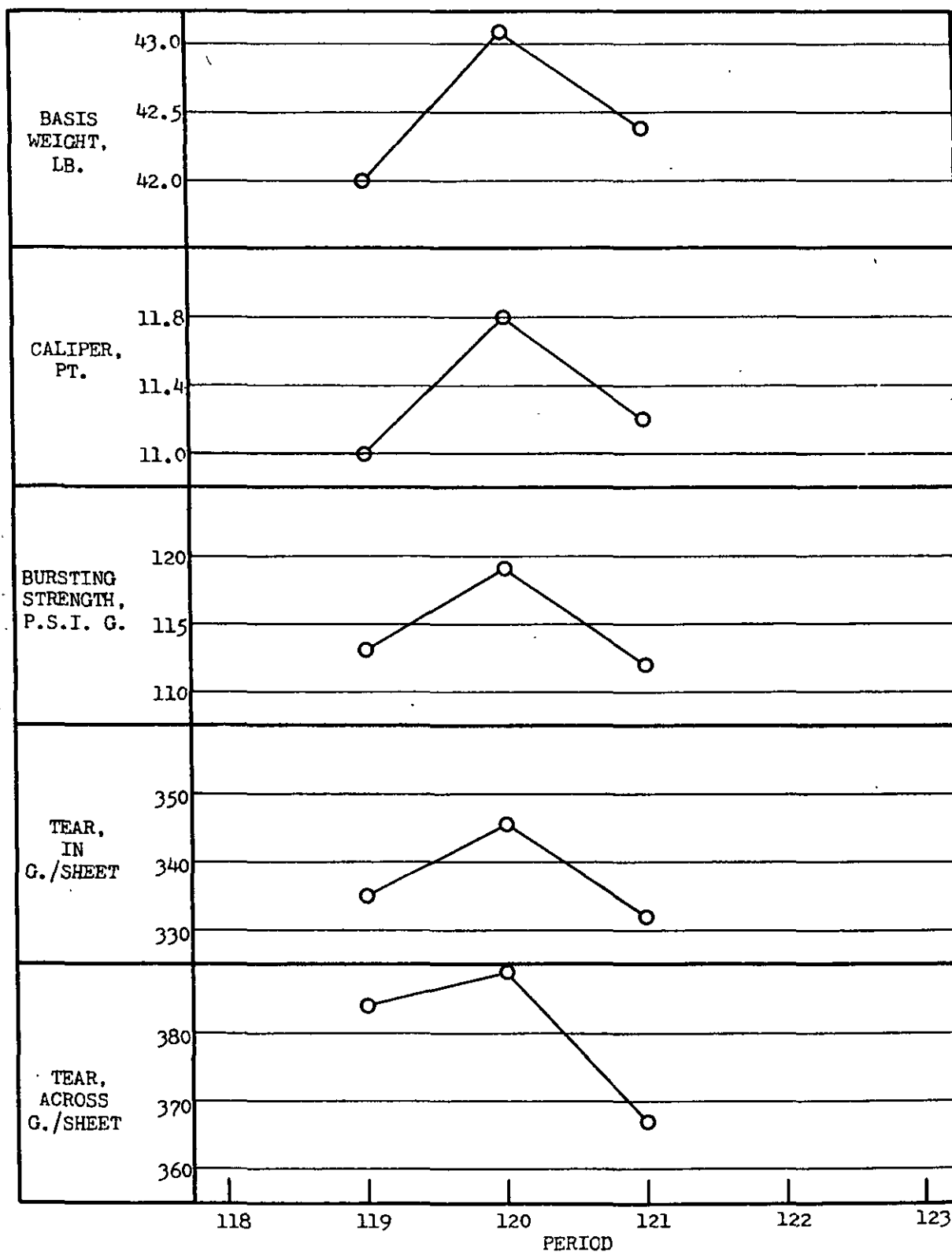


Figure 5

Comparison of Current Mill Averages by Periods for Mill C

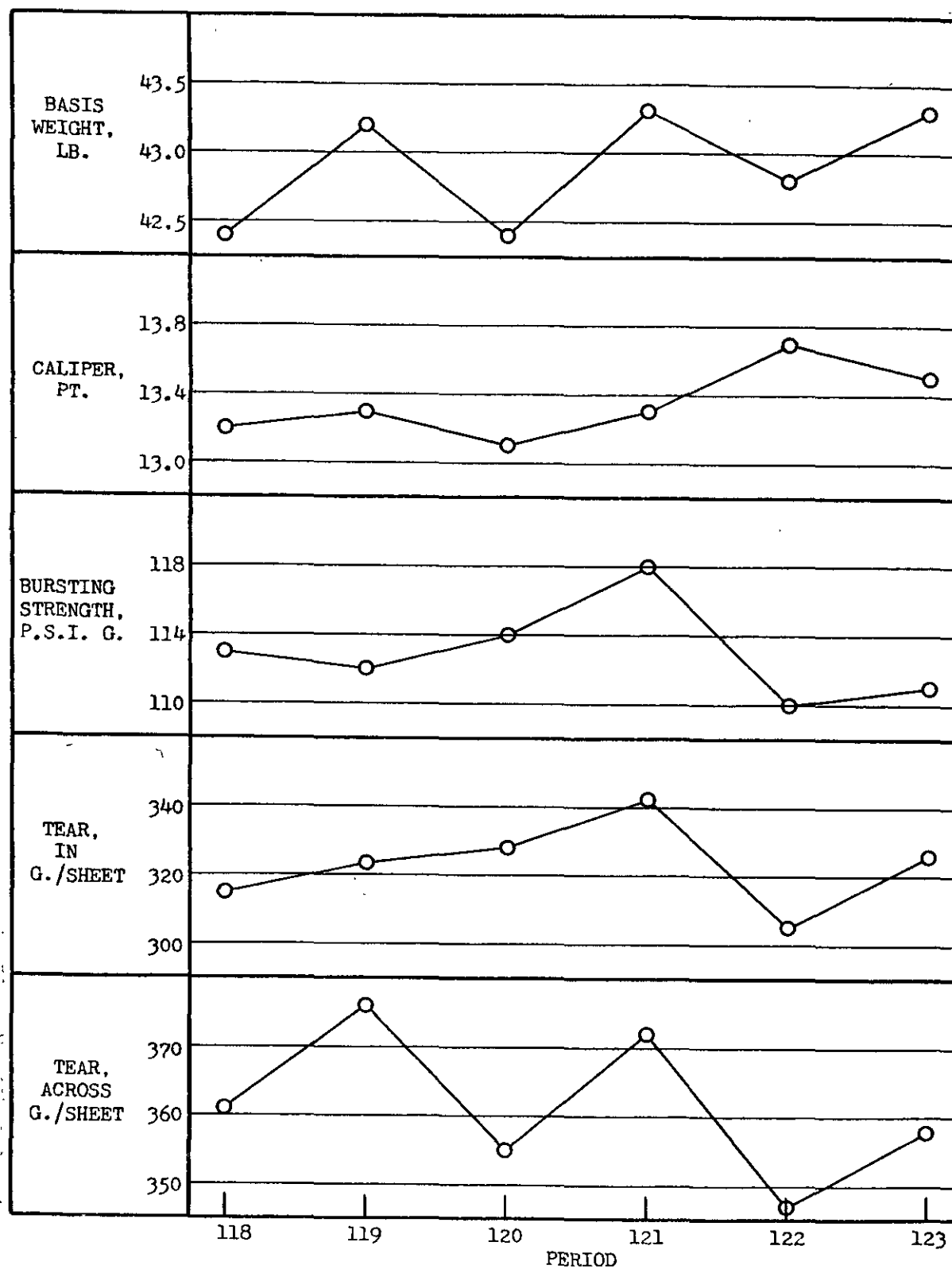


Figure 6

Comparison of Current Mill Averages by Periods for Mill D

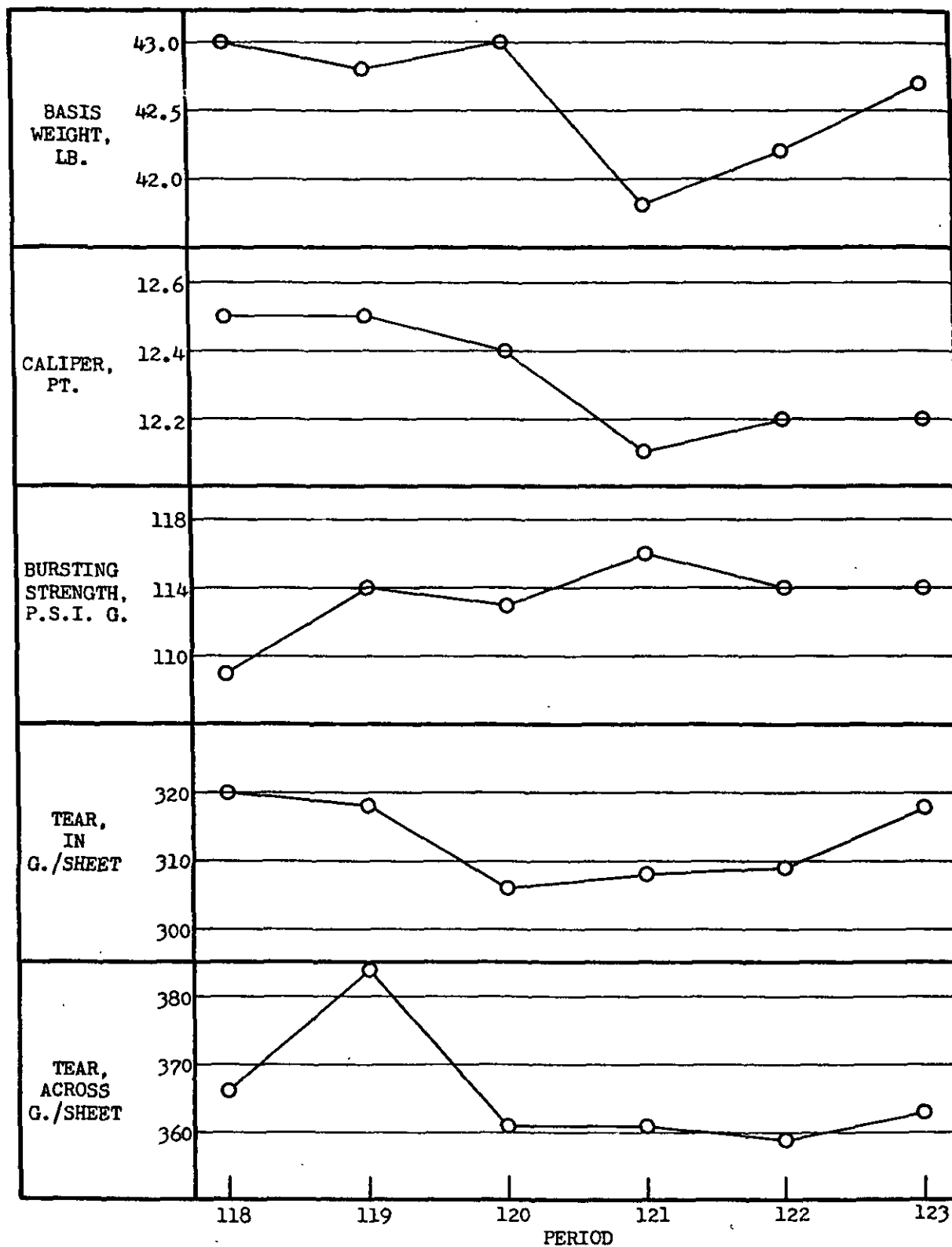


Figure 7

Comparison of Current Mill Averages by Periods for Mill E

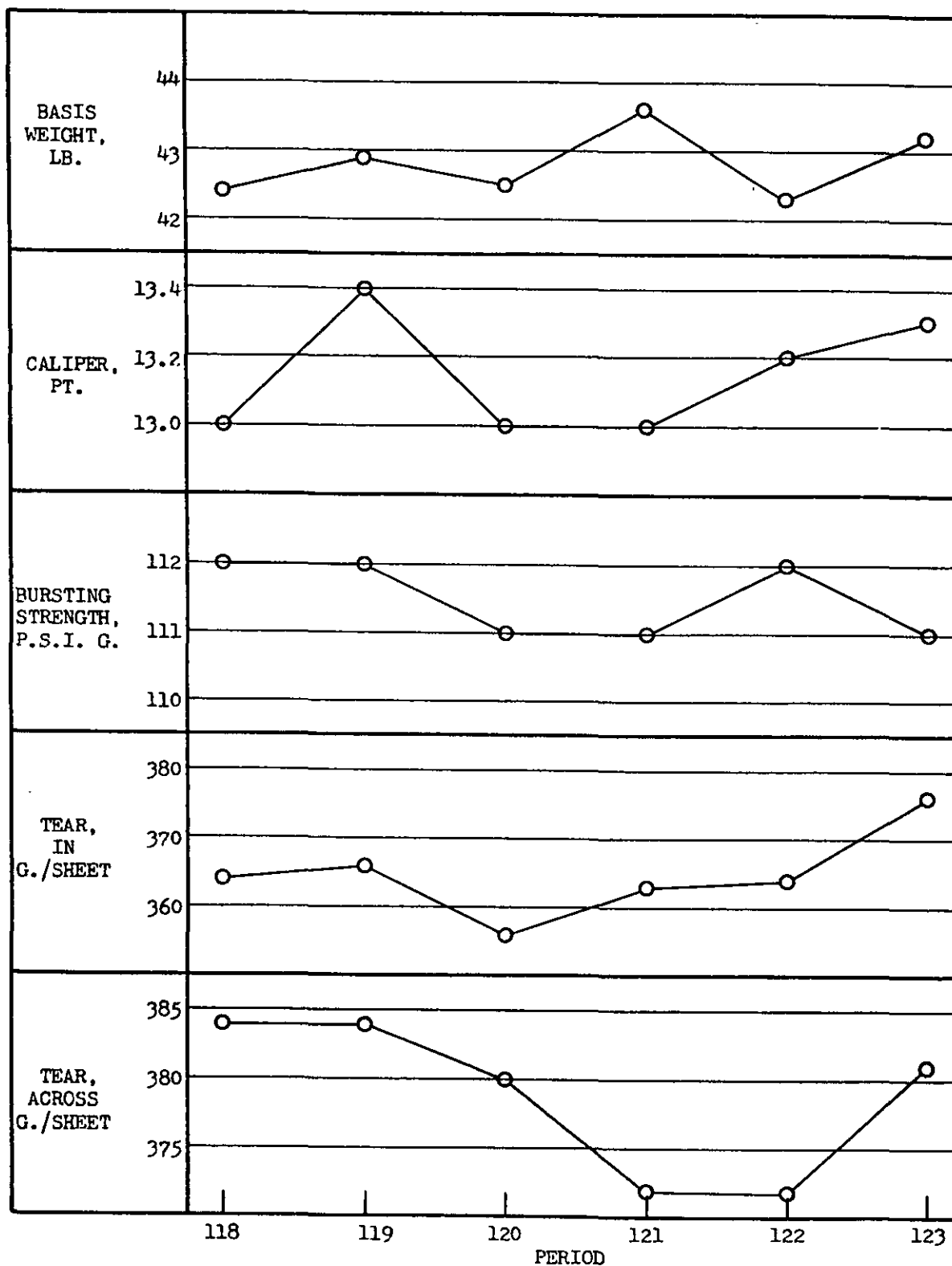


Figure 8

Comparison of Current Mill Averages by Periods for Mill F

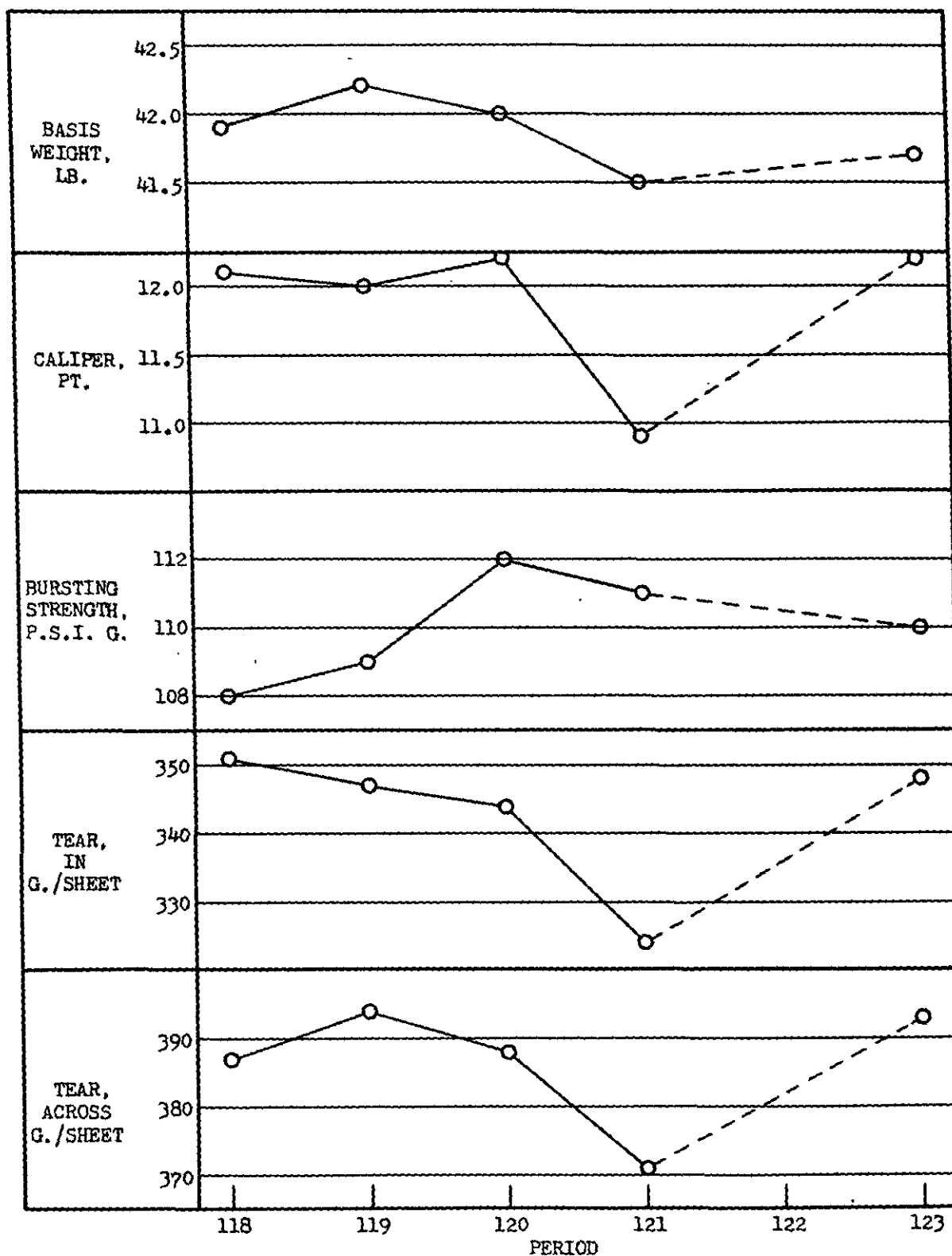


Figure 9

Comparison of Current Mill Averages by Periods for Mill G

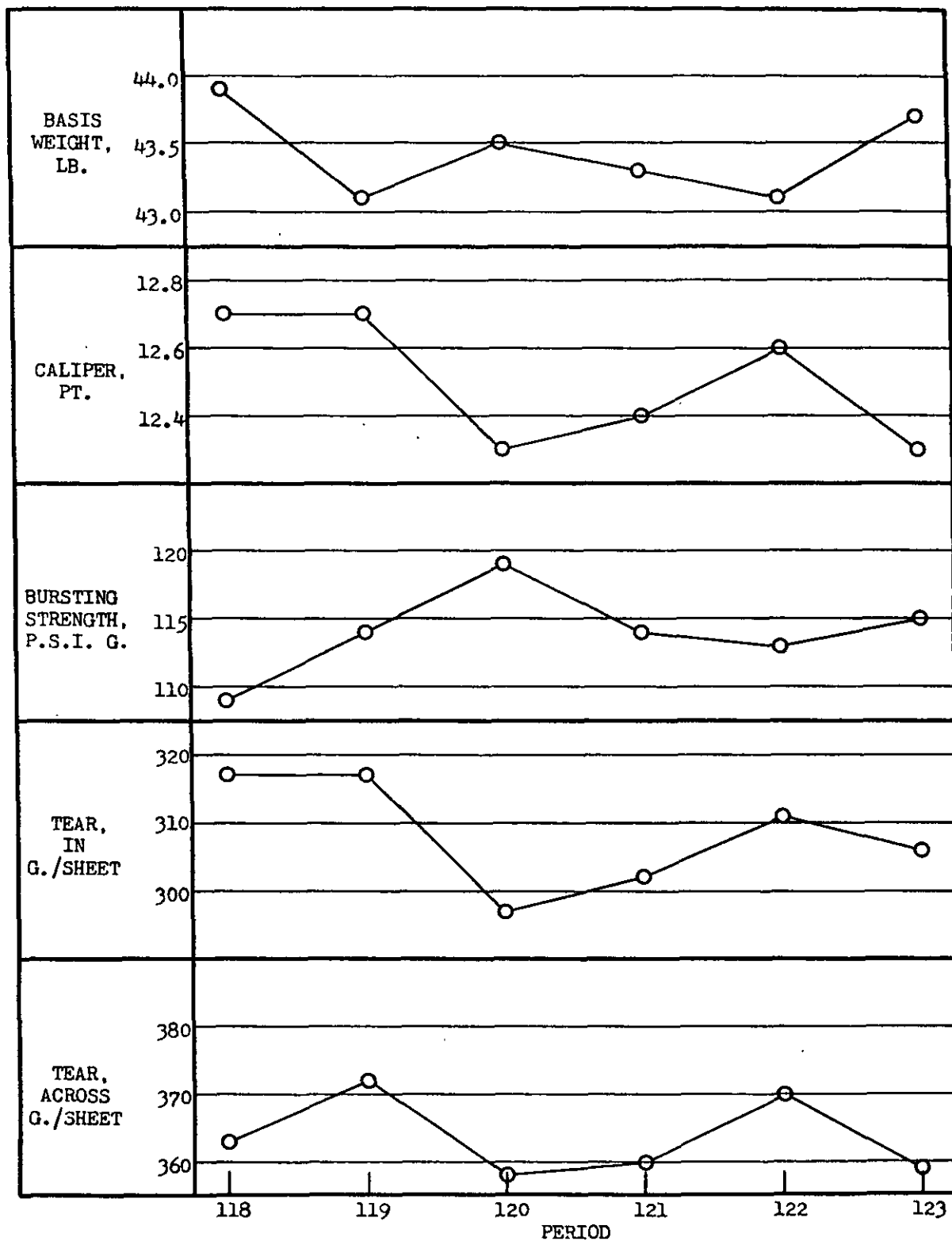


Figure 10

Comparison of Current Mill Averages by Periods for Mill H

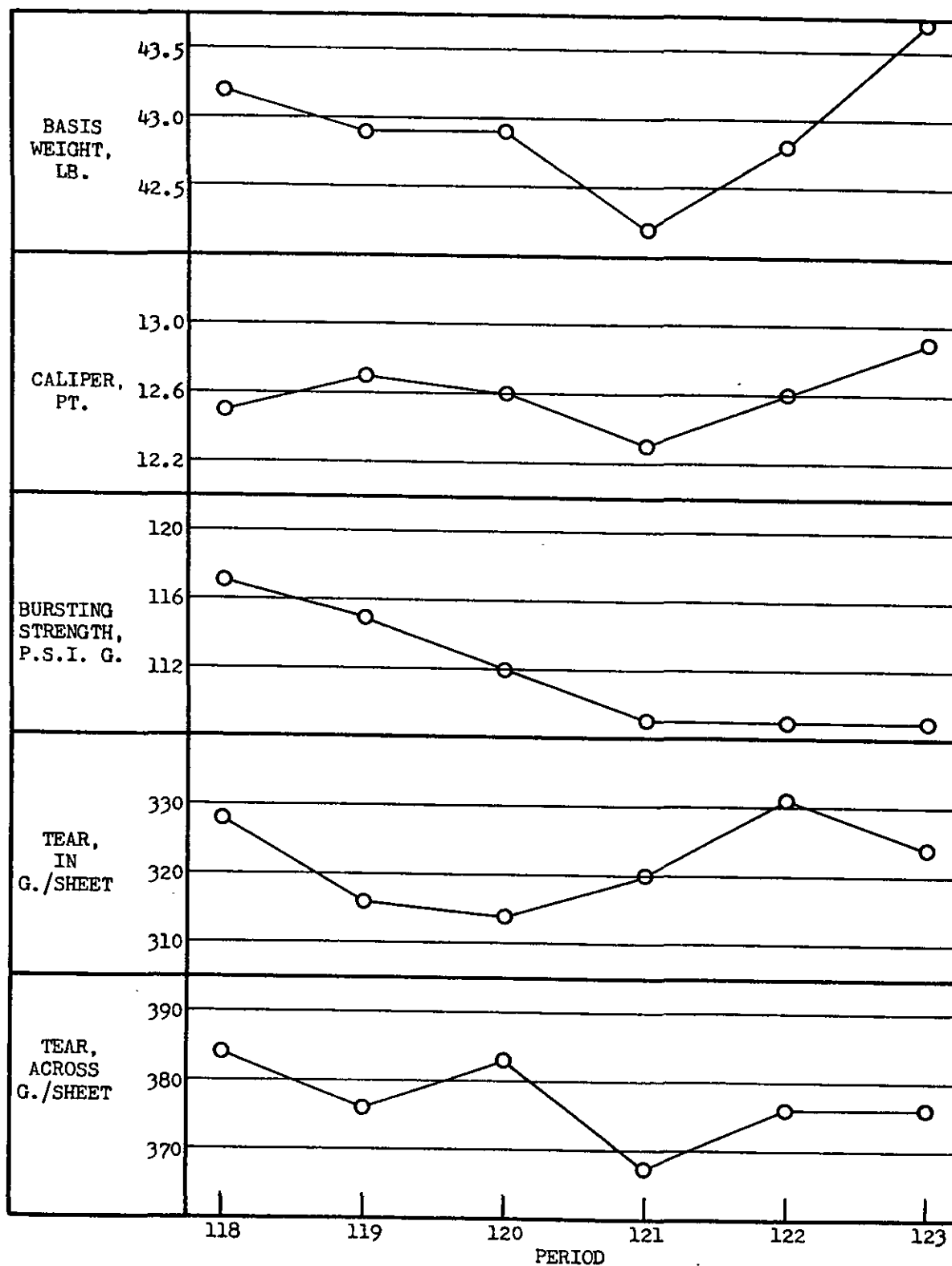


Figure 11

Comparison of Current Mill Averages by Periods for Mill I

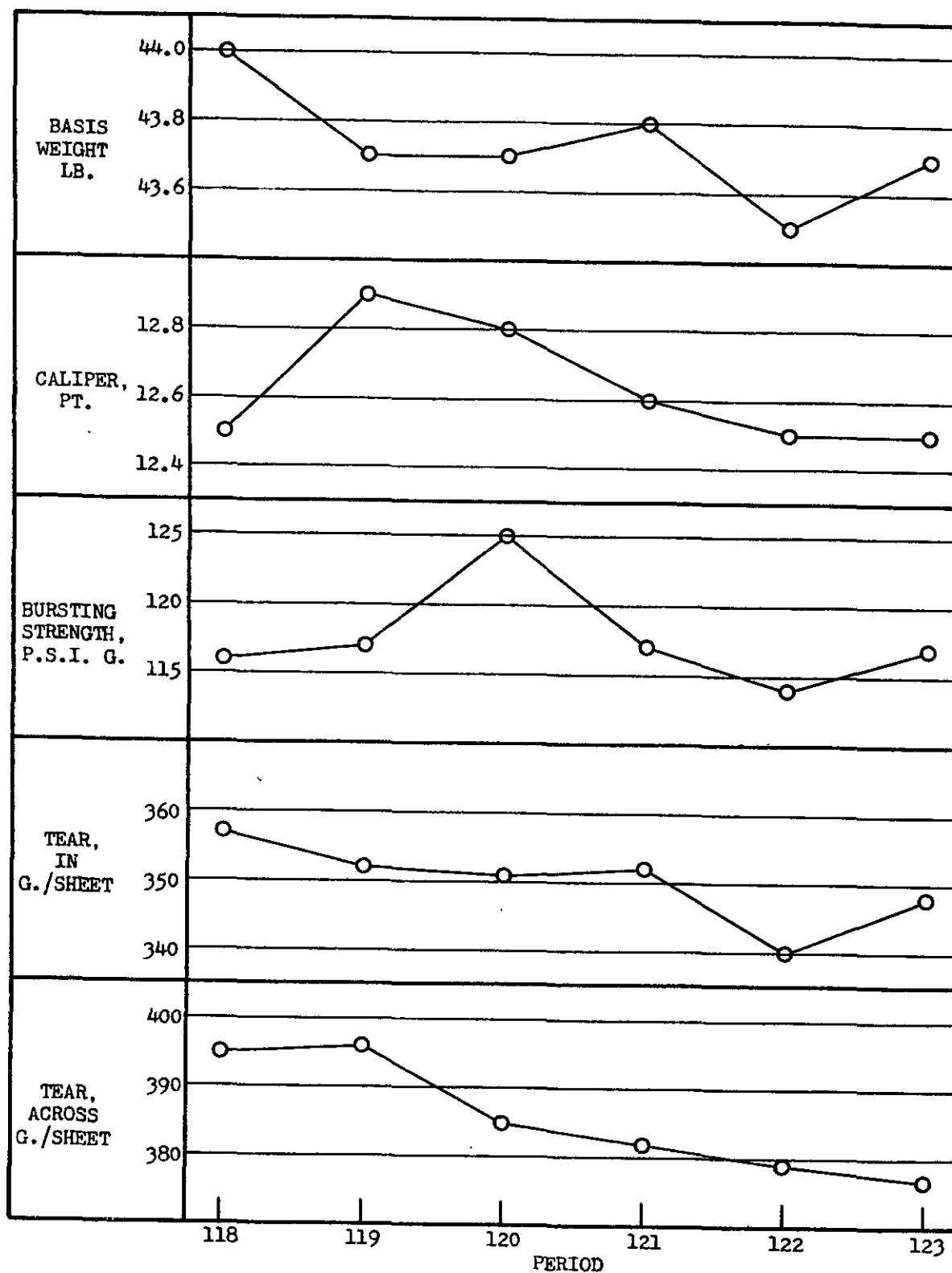


Figure 12

Comparison of Current Mill Averages by Periods for Mill J

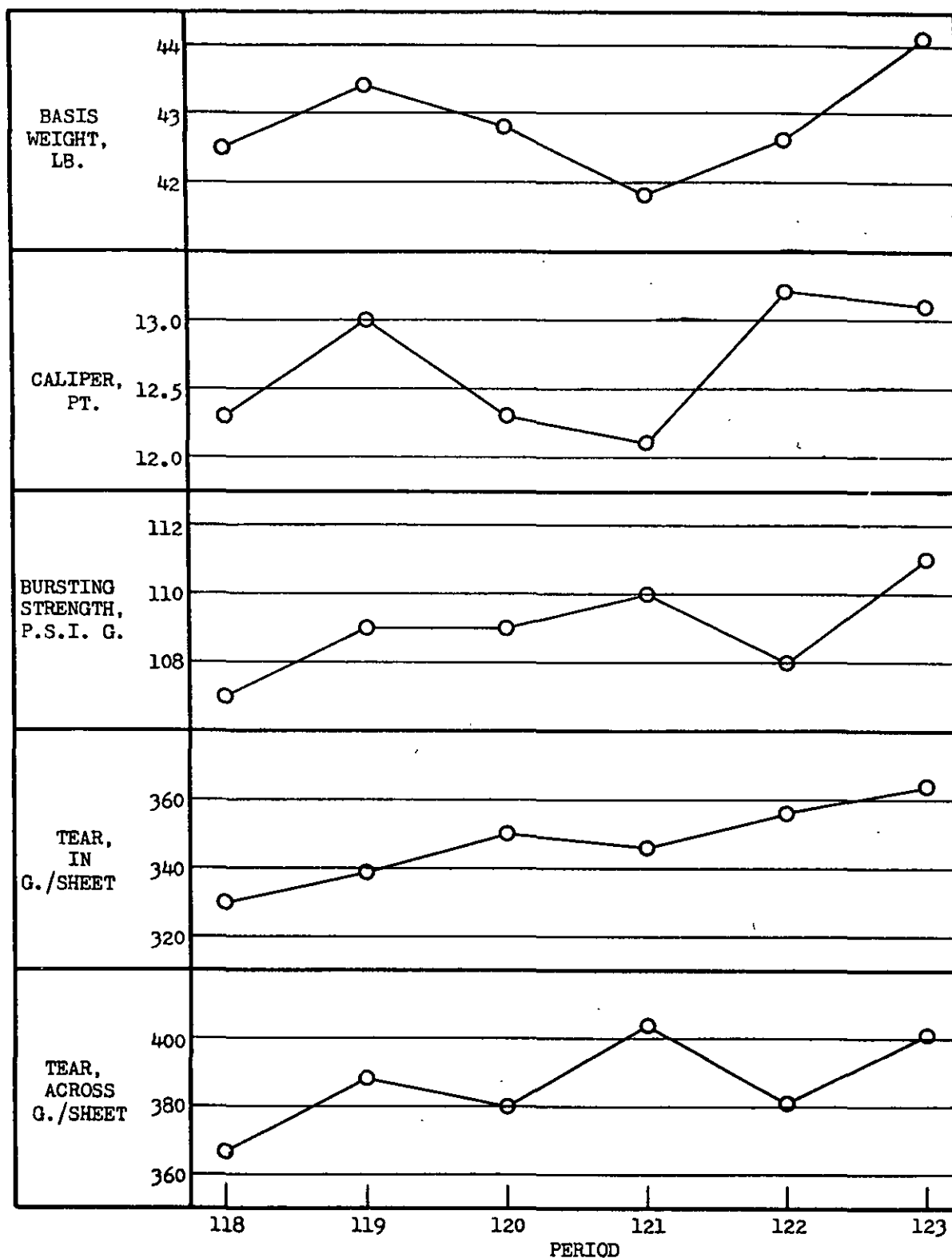


Figure 13

Comparison of Current Mill Averages by Periods for Mill L

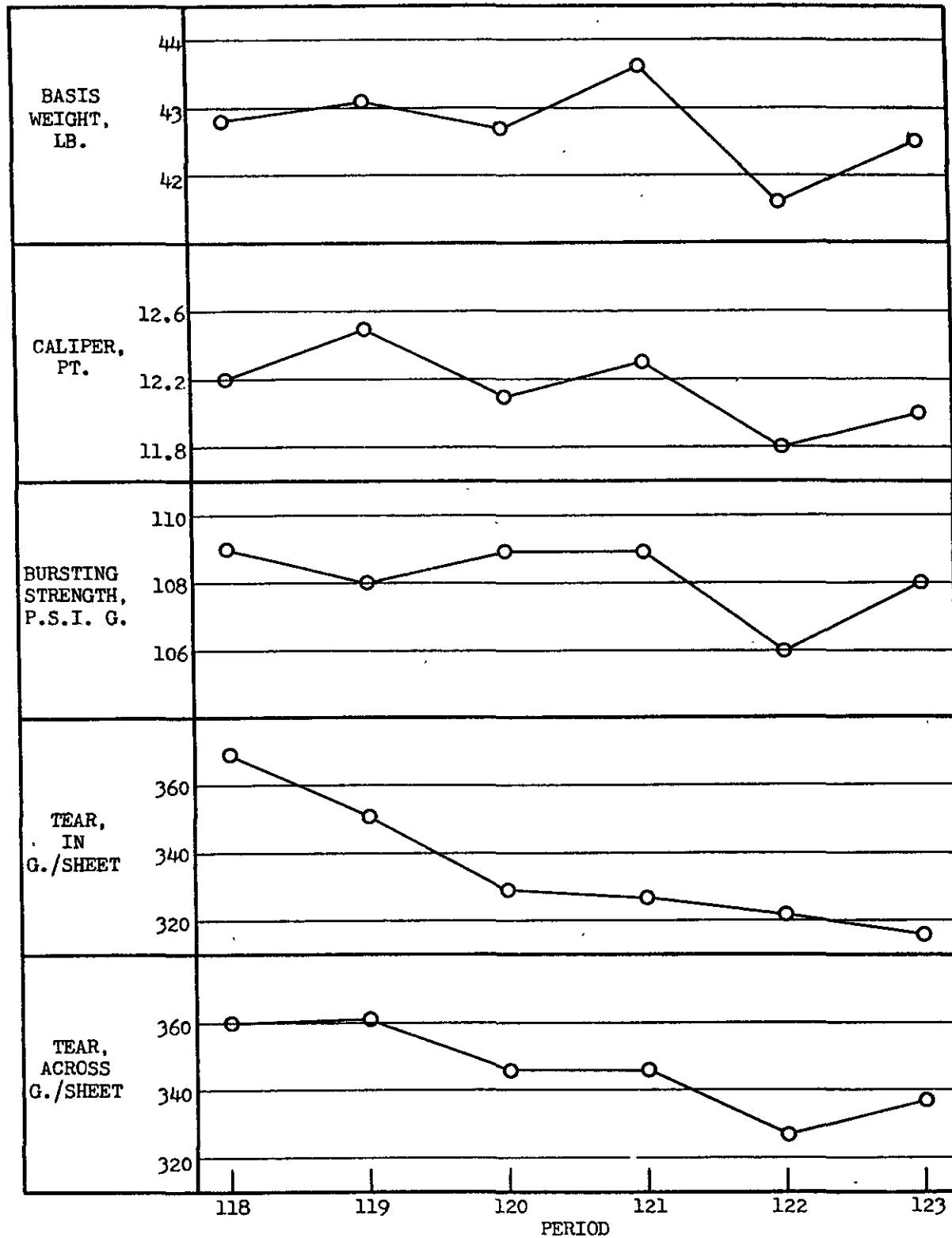


Figure 14

Comparison of Current Mill Averages by Periods for Mill M

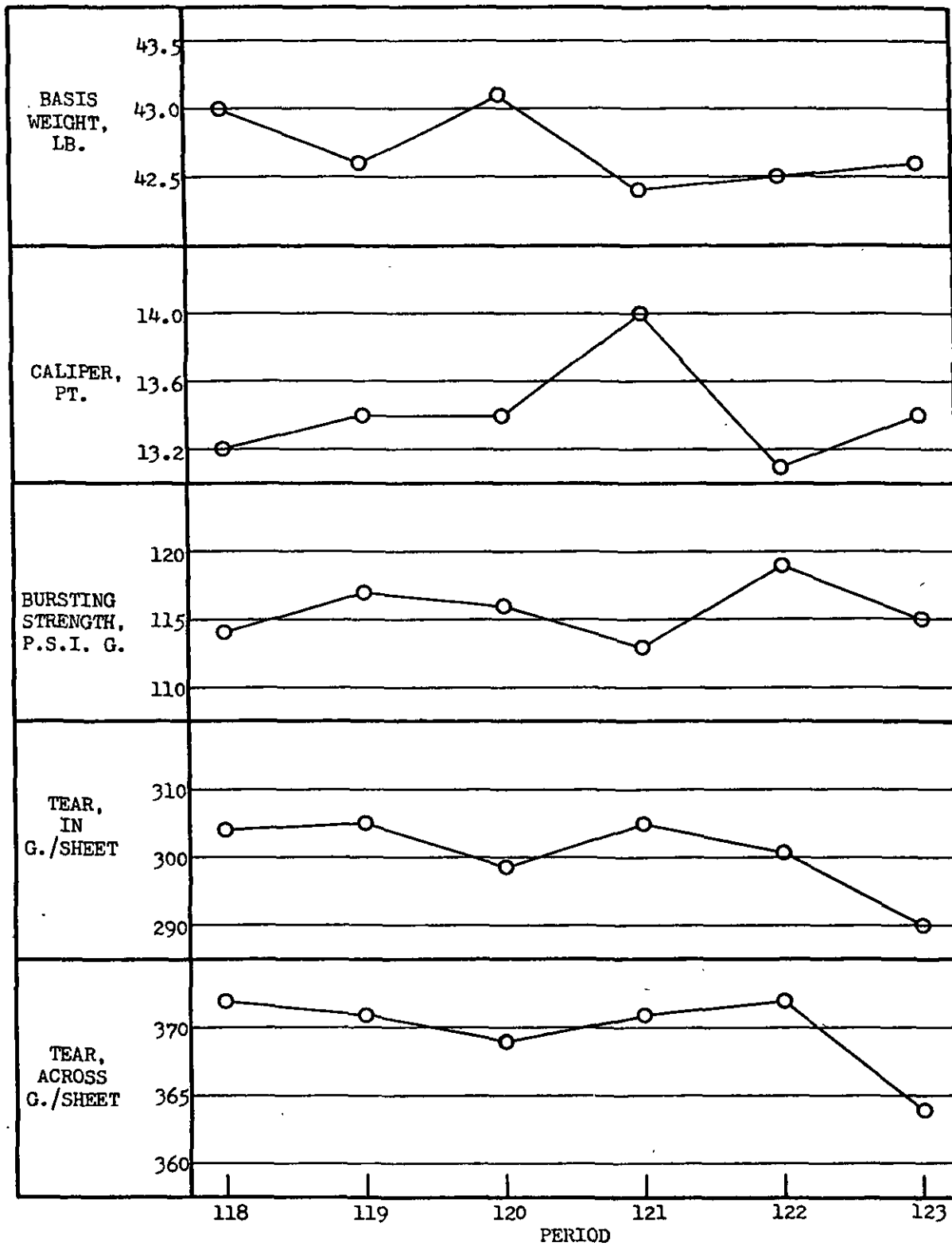


Figure 15

Comparison of Current Mill Averages by Periods for Mill N

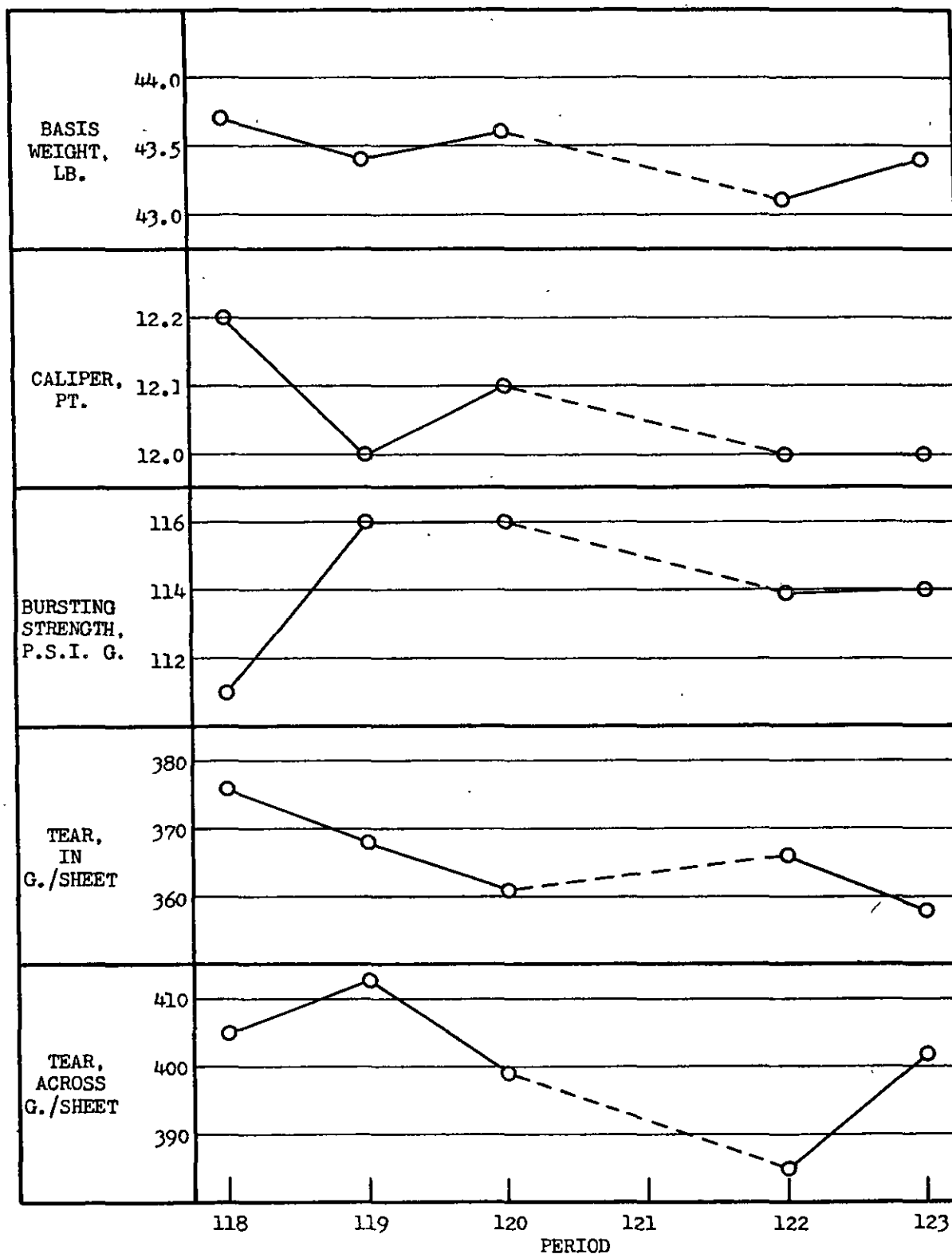


Figure 16

Comparison of Current Mill Averages by Periods for Mill 0

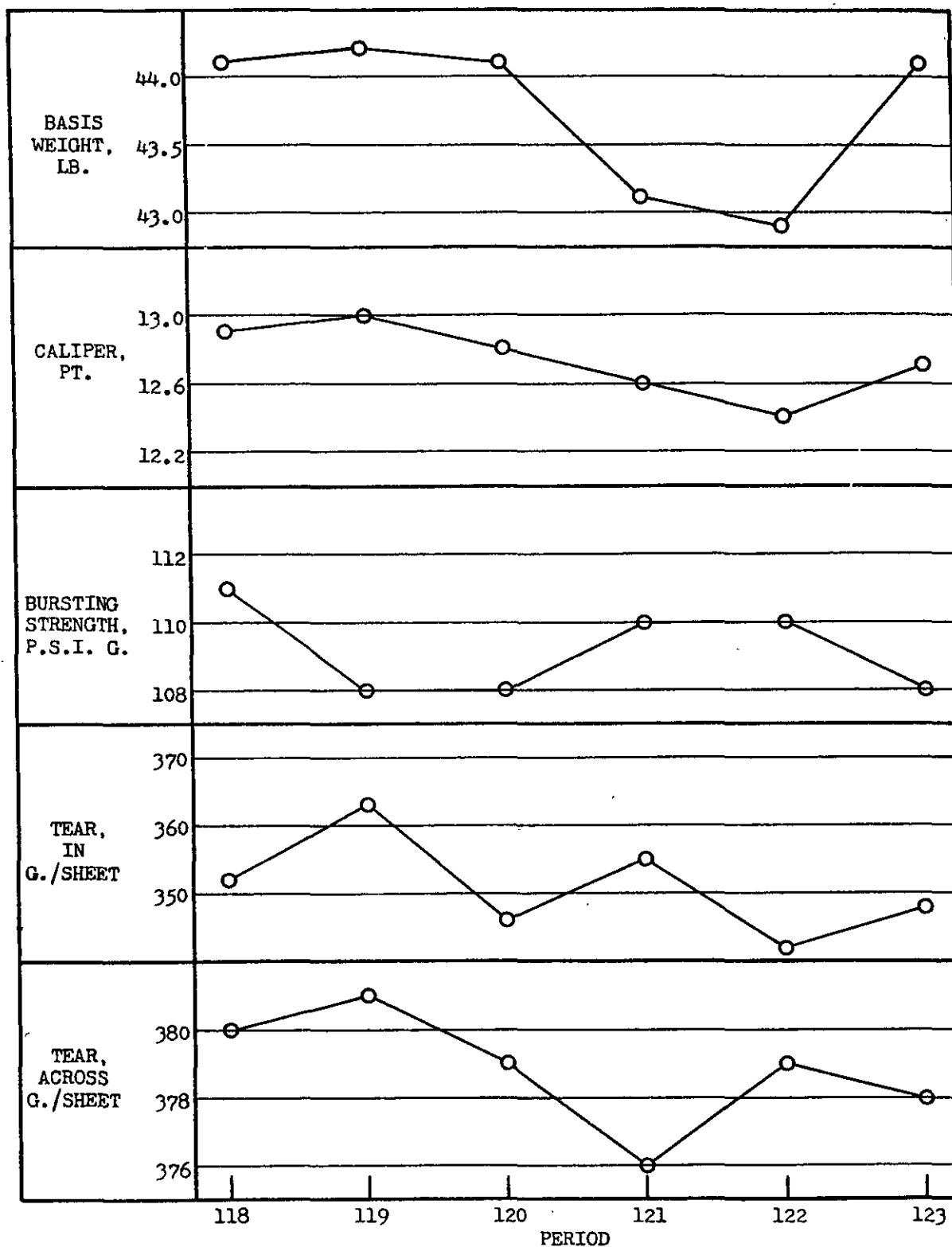


Figure 17

Comparison of Current Mill Averages by Periods for Mill P

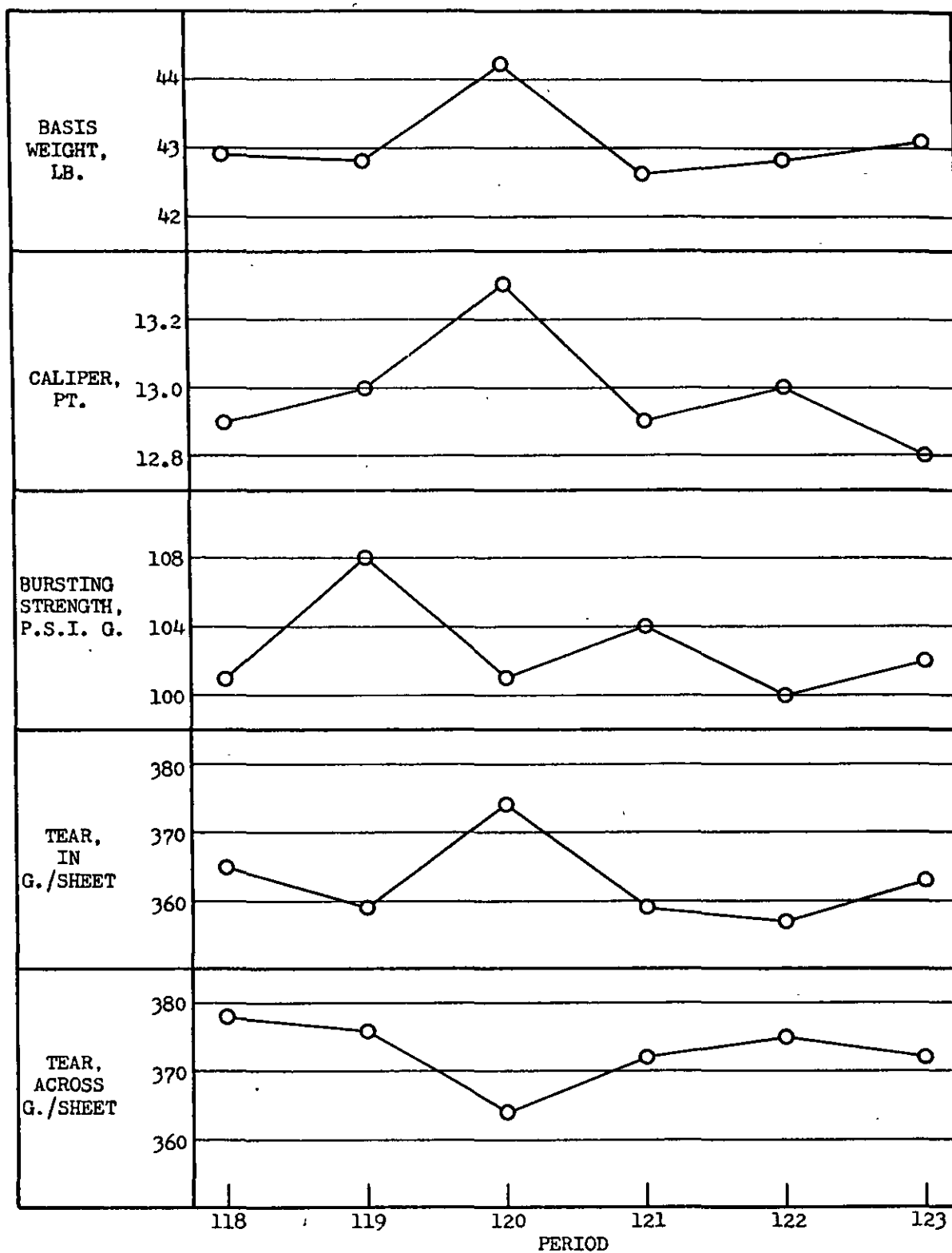


Figure 18

Comparison of Current Mill Averages by Periods for Mill Q